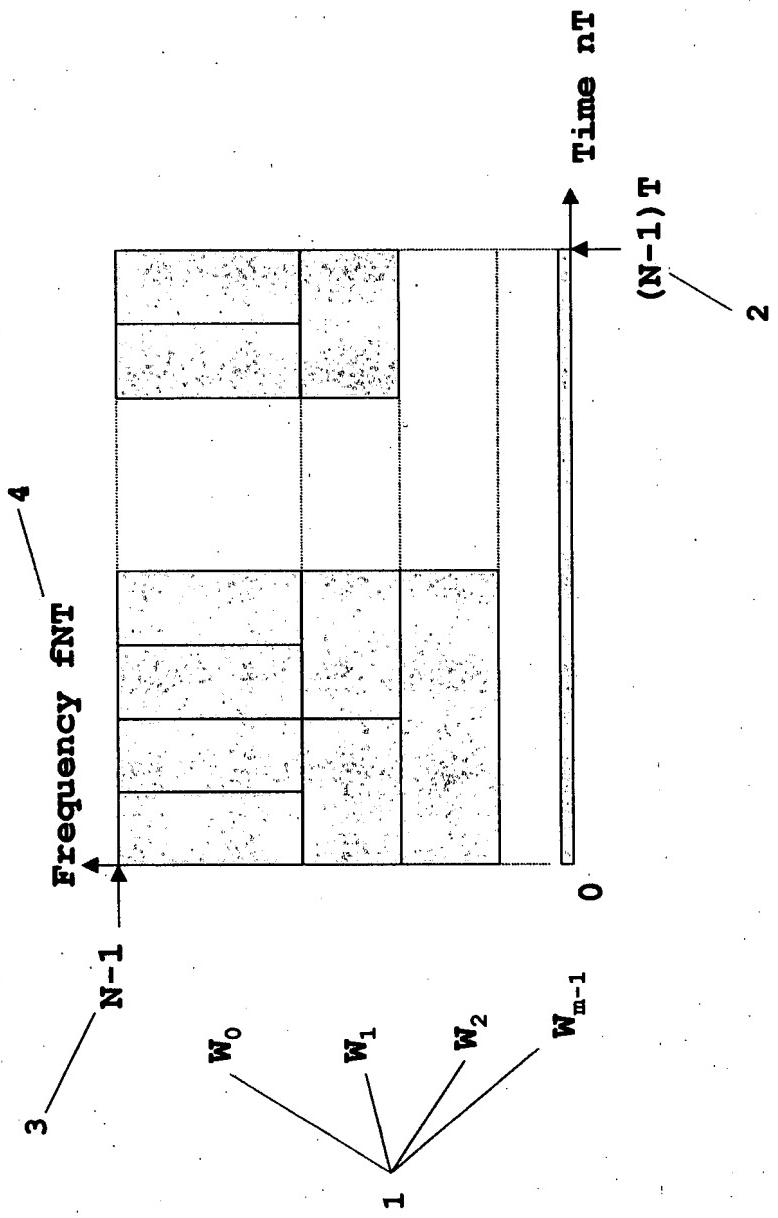


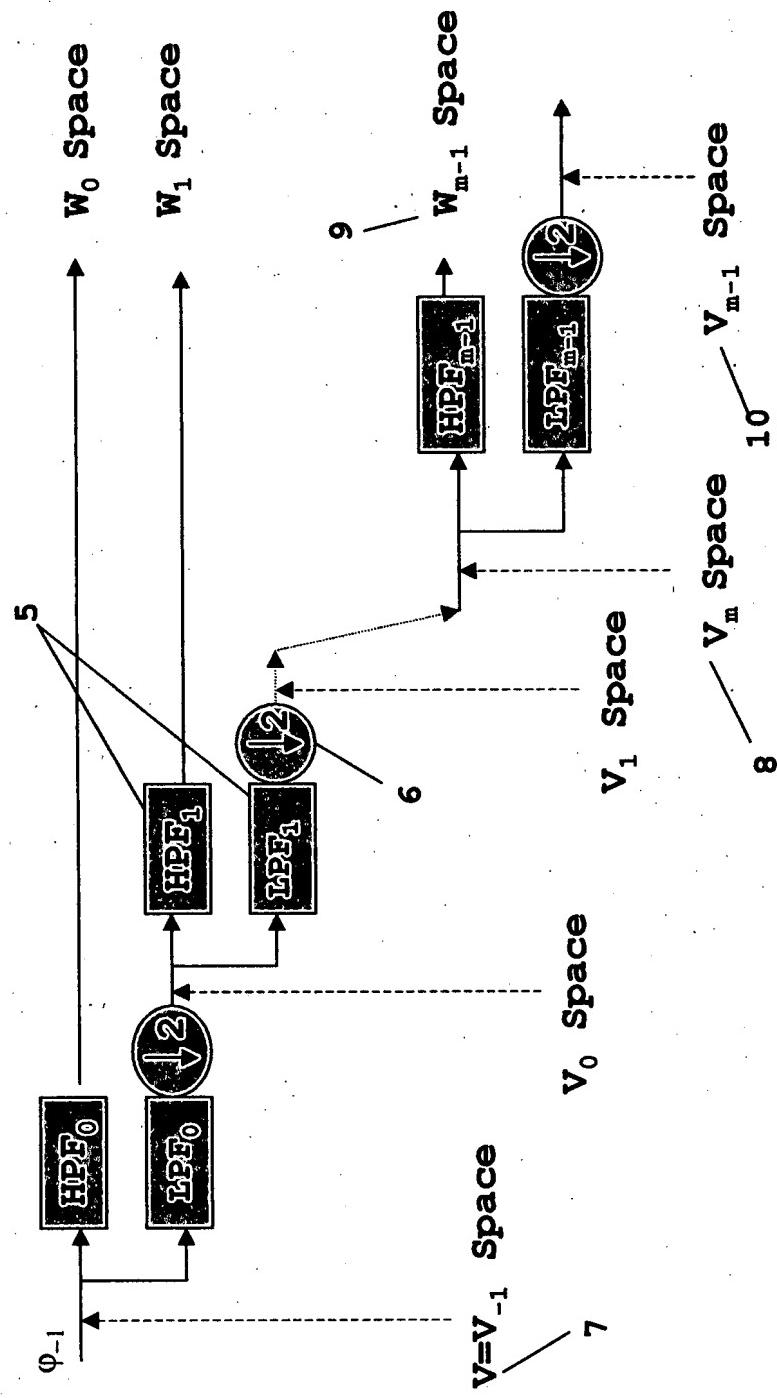
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FIG. 1 Wavelet Tiling of an N-Point Digital t-f Space



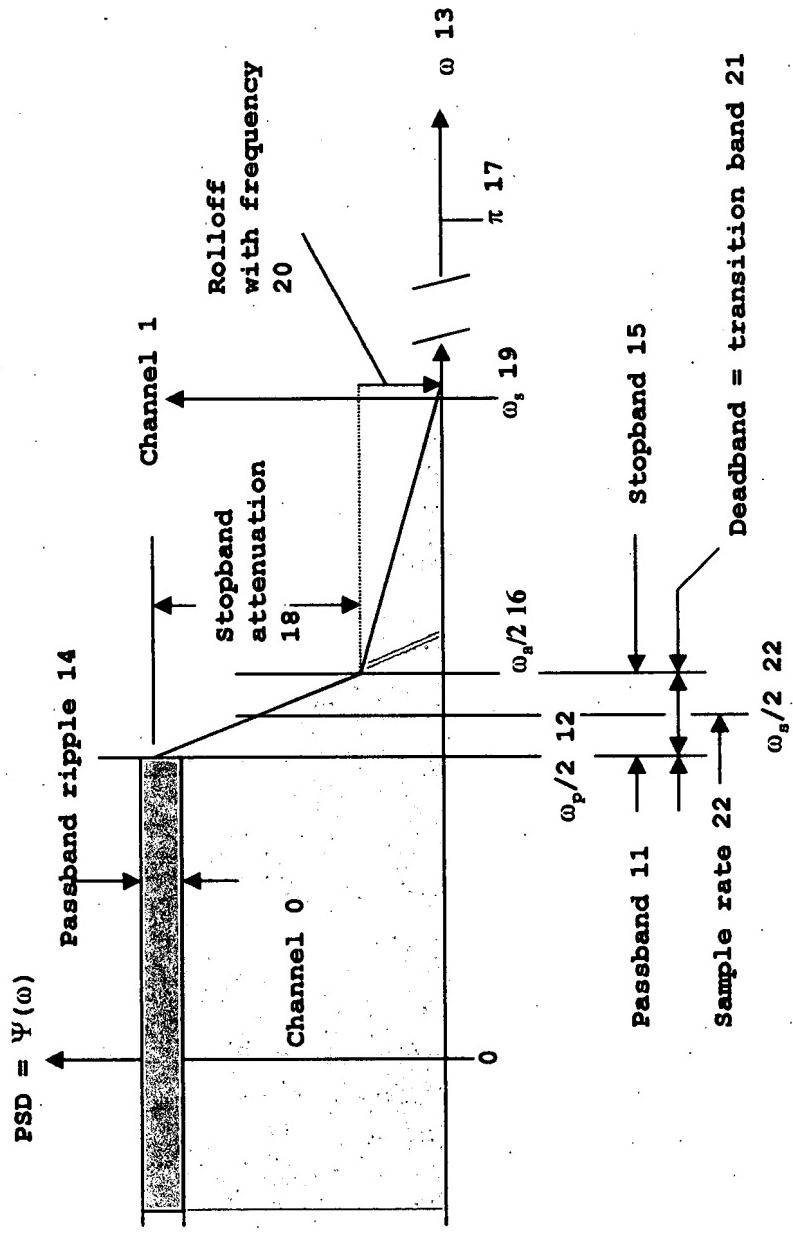
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FIG. 2 Wavelet Iterated Filter Bank for tiling $t-f$ Space in FIG. 1



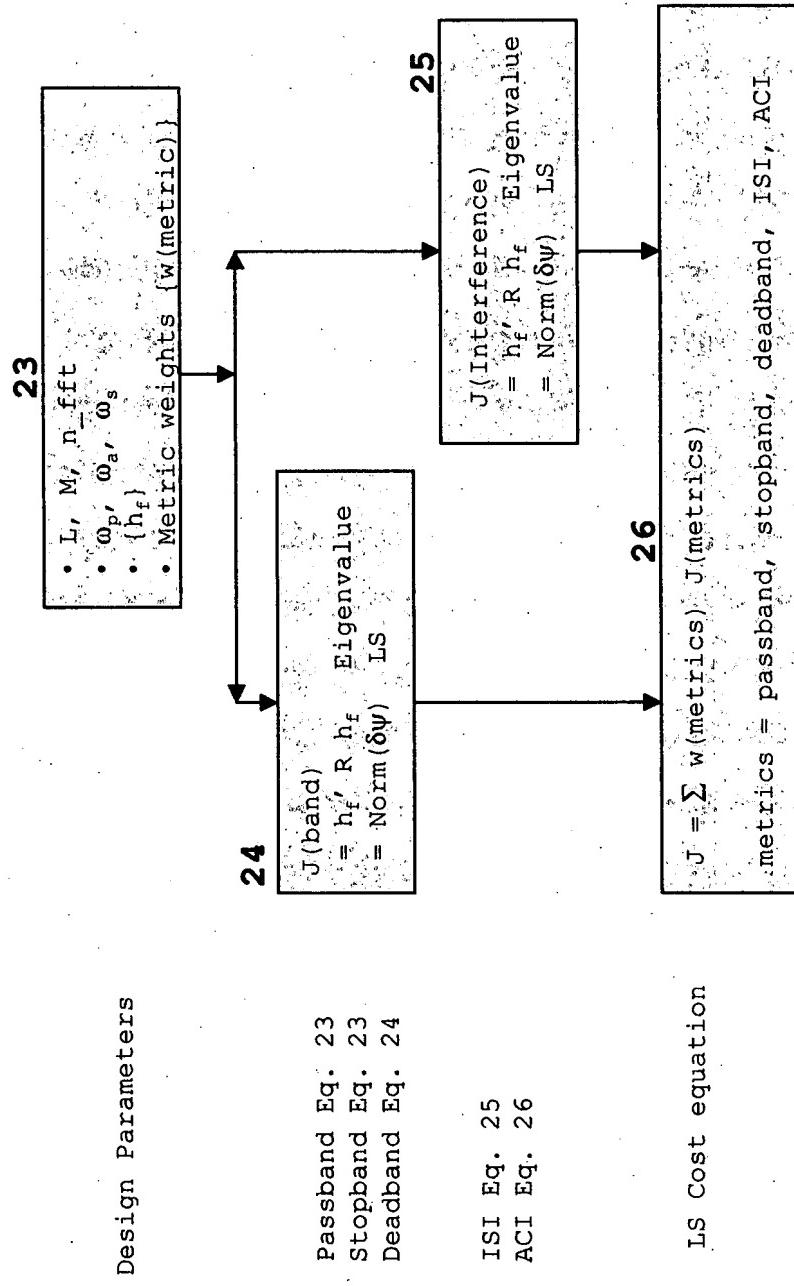
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FIG. 3 PSD Requirements for Communications



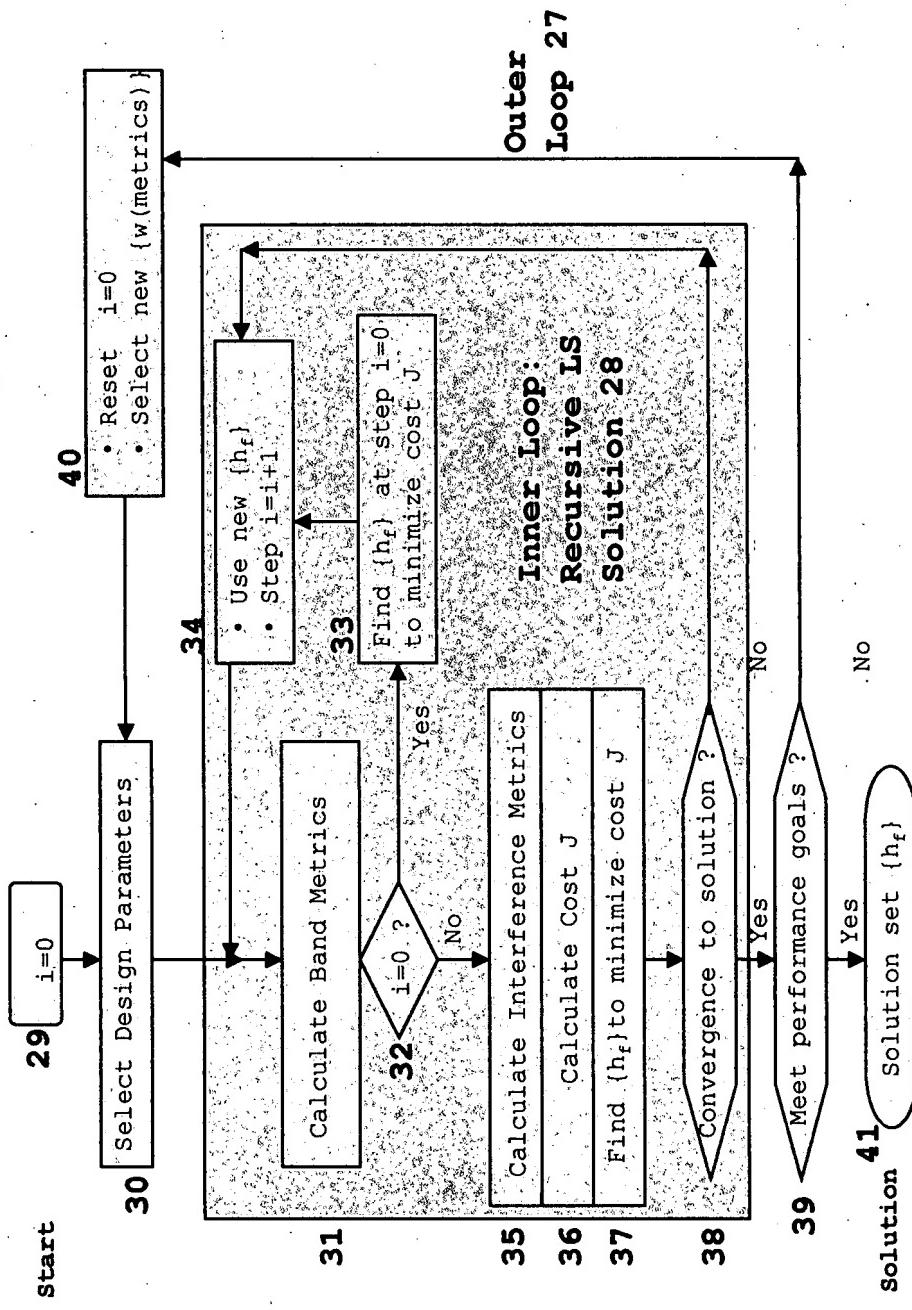
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FIG. 4. LS Metrics and Cost Function



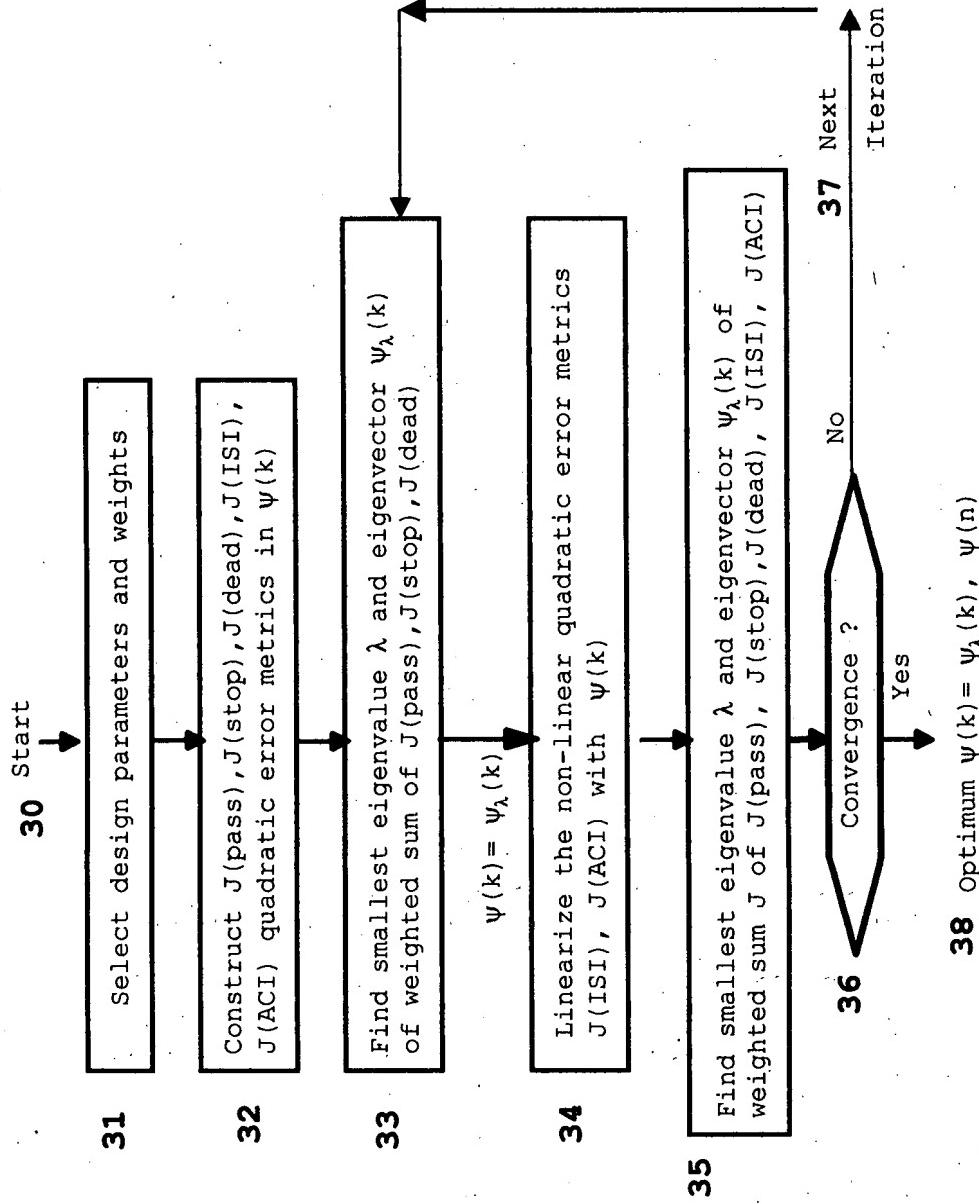
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FIG. 5 LS Recursive Solution Algorithm



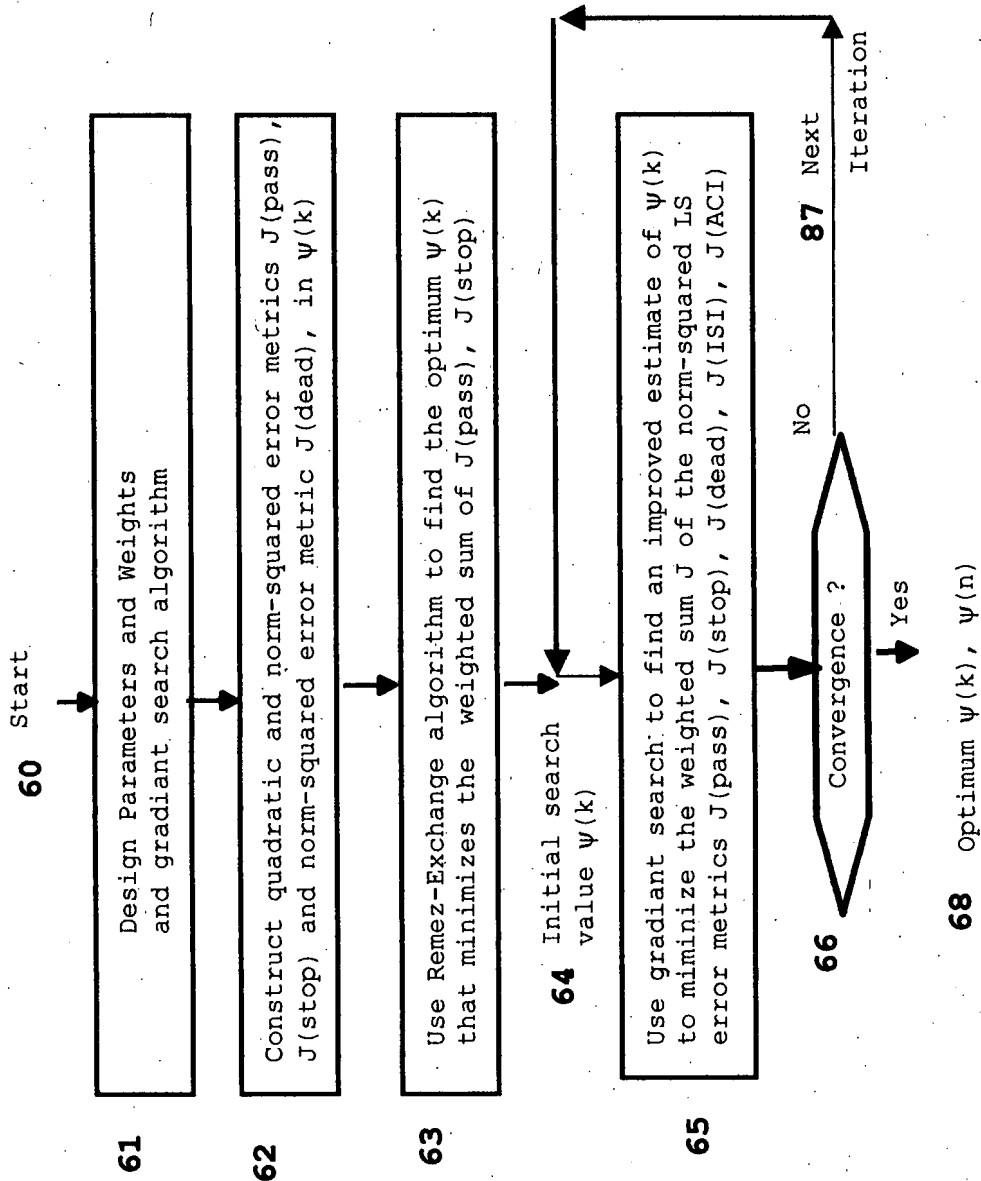
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FIG. 5 Mother Wavelet: Eigenvector Algorithm



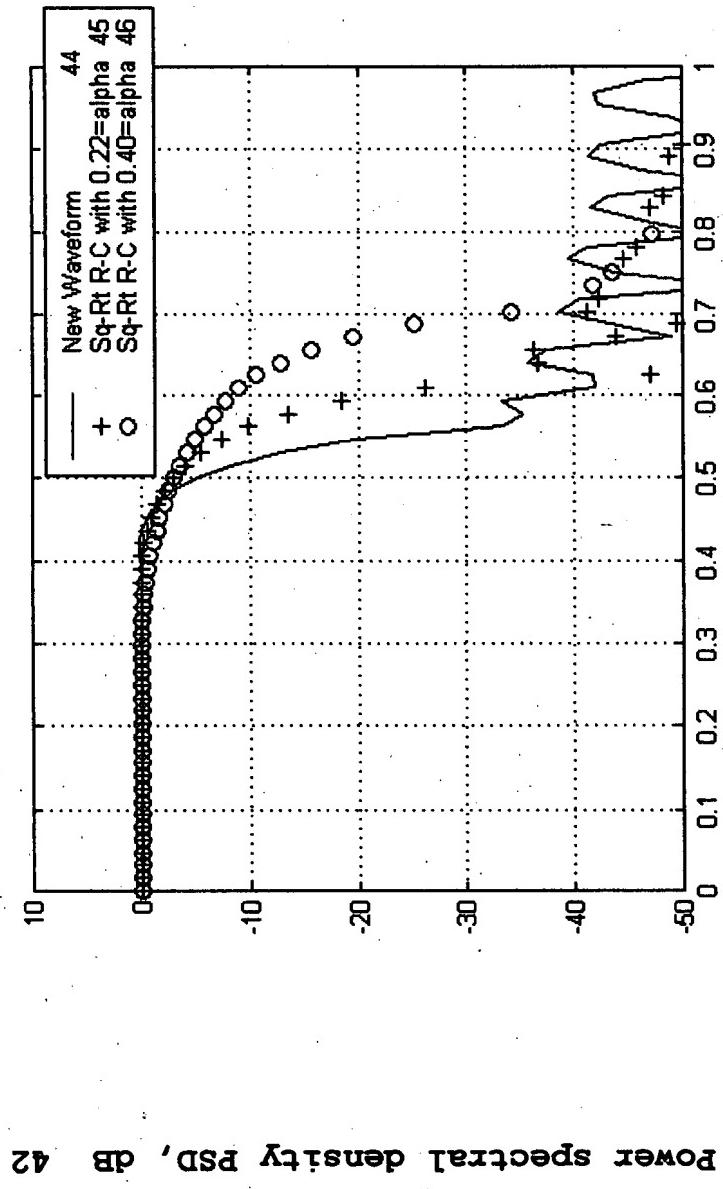
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FIG. 6 Mother Wavelet: Gradient Search Algorithm



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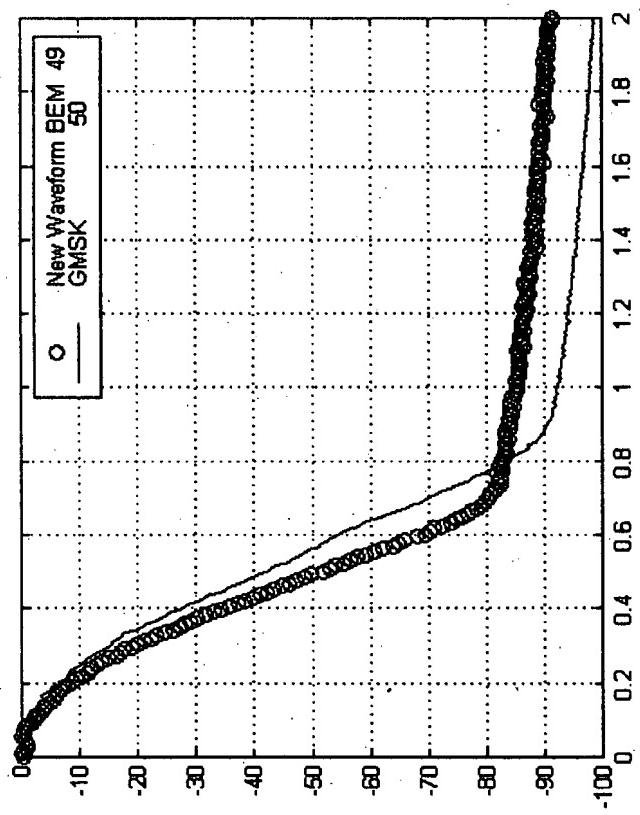
FIG. 8 PSD for New Waveform and Square-Root Raised-Cosine



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FIG. 9 PSD for New Waveform BEM and GMSK

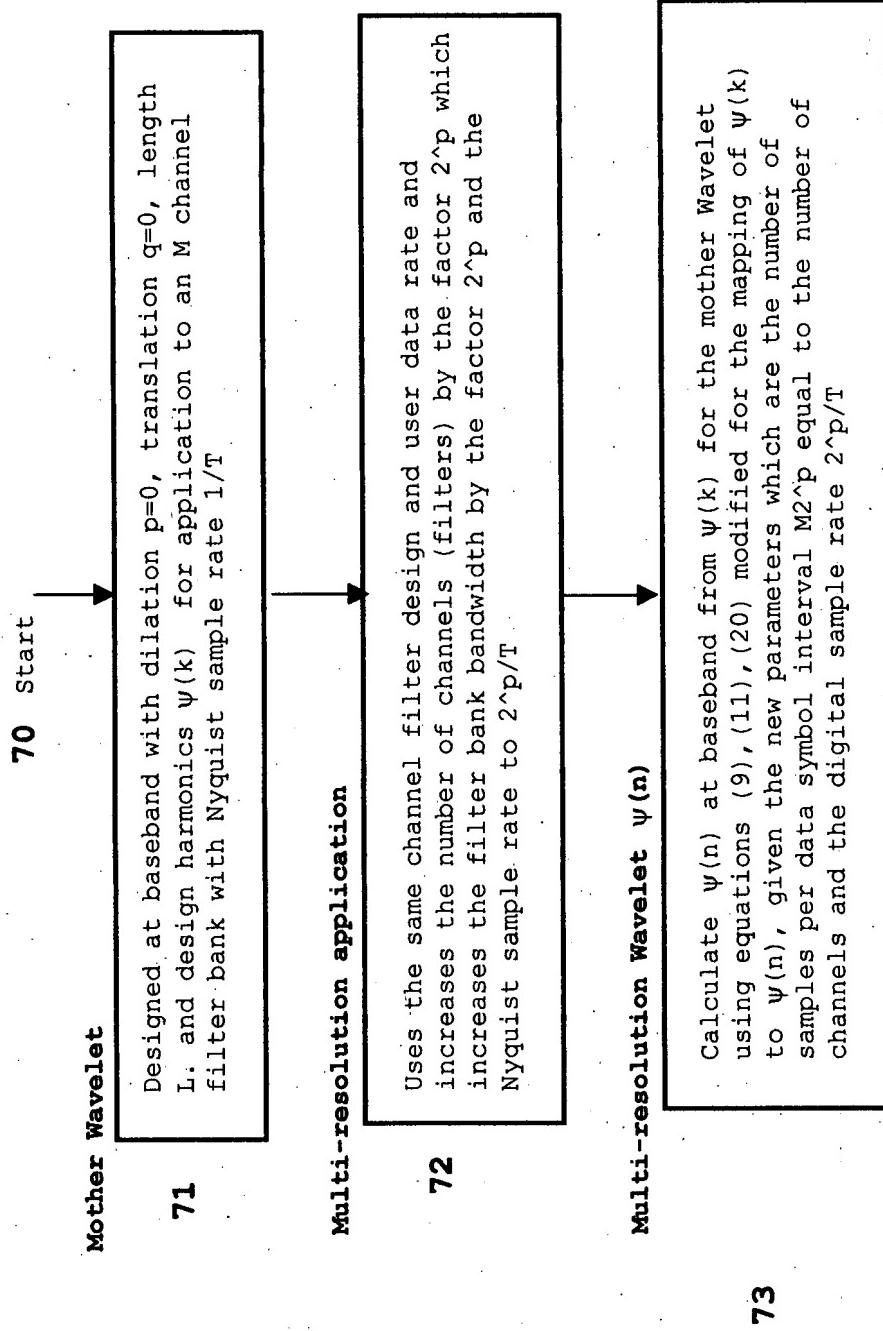
Power spectral density PSD, dB 47



Normalized frequency, bit rate 48

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FIG. 7 Mother Wavelet: Multi-Resolution Algorithm



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**FIG. 10 Radar Ambiguity Functions of New Waveform
and Unweighted Chirp Waveform**

New Wavelet Ambiguity Function 51

Unweighted Chirp Ambiguity Function 52

